

## VIDEO MIX PROGRAM GUIDE

This invention relates generally to  
5 interactive video communications and more particularly  
concerns viewer controlled channel programming guide  
displays.

When the home viewer selects the programming guide channel, viewing of the channel previously selected is interrupted. While the viewer executes best judgment to when to make the change, key portions of the program on the previously selected channel may be missed. This is especially probable in cases of live programming. It is also especially irritating to the viewers not in possession of the controller.

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## 1.0 Summary of the Invention

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tuner with the output picture image signal from the computer to provide a display signal with the program guide display superimposed over the channel programming display for input to the viewer's display screen. The  
5 computer is responsive to a control signal from the remote to change the weight of the superimposed signal in relation to the base or normal programming signal.

#### Brief Description of the Drawings

Other objects and advantages of the invention  
10 will become apparent upon reading the following detailed description and upon reference to the drawings in which:

FIG. 1 is a block diagram illustrating a preferred embodiment of the hardware of the interactive  
15 scrolling program guide;

FIG. 2 is a flow chart illustrating the basic process and options of the video mix capability of the interactive scrolling program guide;

FIG. 3 is a representation of an interactive  
20 scrolling program guide menu display;

FIG. 4 is a representation of an interactive scrolling program guide display in a video mix mode;

FIG. 5 is a representation of the interactive scrolling program guide display in a solid or one  
25 hundred percent programming guide condition relative to the base signal;

FIG. 6 is a representation of the interactive scrolling program guide display in a ninety percent programming guide condition relative to the base  
30 signal;

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FIG. 7 is a representation of the interactive scrolling program guide display in an eighty percent programming guide condition relative to the base signal;

5           FIG. 8 is a representation of the interactive scrolling program guide display in a seventy percent programming guide condition relative to the base signal; and

10           FIG. 9 is a representation of the interactive scrolling program guide display in a sixty percent programming guide condition relative to the base signal.

20           While the invention will be described in connection with a preferred embodiment and process, it will be understood that it is not intended to limit the invention to that embodiment or process. On the contrary, it is intended to cover all alternatives, modifications and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

#### Detailed Description of the Invention

Turning first to FIG. 1, the components of the interactive scroll program guide are illustrated. A computer 11 having a command information receiver, preferably an infrared or radio frequency receiver 13, provides a control signal 15 to a tuner 17 and a picture image signal 19 to a digital video board 21. The tuner 17 converts or demodulates radio frequencies or optical transmissions to a signal usable by the viewer to output a signal 23 selected from a plurality

of signals 25 input to the tuner 17 from the cable source (not shown), typically frequency division multiplexed video, audio and data signals transmitted via a coaxial cable, over-the-air radio frequencies or  
5 fiber optics. The digital video board 21 converts digital data into a video signal. The tuner output or base programming signal 23 has superimposed thereon a scroll information picture image signal 27 from the digital video board 21 in a genlock signal combiner or  
10 overlayer 29. The combined scroll and TV picture signal 31 is then displayed on a video signal display device such as the display screen 33 of the viewer's television. The combiner 29 permits the viewer to select the weight of the scroll information picture  
15 signal 27 in relation to the base programming signal 23. The viewer sends commands to the receiver 13 to control the operation of the computer 11 by the use of a remote control transmitter, preferably an infrared or radio frequency transmitter 35. The computer 11 is  
20 based on microprocessor and may utilize random access (RAM) and/or read only (ROM) memory. The software necessary to operate the microprocessor may be embedded in the device or downloaded via the cable system to the device.

25           The above described interactive scroll program guide components operate in response to the control of the computer 11. As shown in FIG. 2, while the home viewer is watching programming presented on his display 33 in response to the tuner 17 feeding any  
30 basic program signal 23 from the input selections 25 to the genlock combiner 29, the viewer may opt to



the "new mix selection" inquiry 61 is "YES", the routine proceeds through the calculate hardware parameters step" 63 and the "set hardware to new level" step 65, at which point the genlock combiner 29  
5 automatically performs these functions to establish the weight of the program guide signal 27 superimposed by the genlock combiner 29 over the basic programming signal 23. When the hardware is set to its new level 65, the routine continues through the path 55 to the  
10 "key pressed" inquiry 53 to determine whether the viewer has again selected a different percentage of signal mix.

FIGS. 5 through 9 illustrate the solid or one hundred percent video mix, ninety percent video mix,  
15 eighty percent video mix, seventy percent video mix and sixty percent video mix, respectively, the percentage indicating the weight the programming guide signal 27 superimposed on the basic programming signal 23.

If the video mix routine is exited and later  
20 reselected, the weight of the programming guide signal 27 will automatically be the weight last opted by the viewer.

Thus, each individual viewer will be provided with a scroll program guide in which the home viewer  
25 can interactively determine whether the program guide scroll should be displayed and, if so, its weight relative to the basic program data.

Thus, it is apparent that there has been provided, in accordance with the invention, a video mix  
30 program guide that fully satisfies the objects, aims and advantages set forth above. While the invention

has been described in conjunction with specific  
embodiments thereof, it is evident that many  
alternatives, modifications and variations will be  
apparent to those skilled in the art and in light of  
5 the foregoing description. Accordingly, it is intended  
to embrace all such alternatives, modifications and  
variations as fall within the spirit of the appended  
claims.

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